# Troubleshooting

## ENGINE

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ENGINE HARD TO START OR WILL NOT START</strong></td>
<td>Engine speed lever not pushed forward.</td>
<td>Push lever forward.</td>
</tr>
<tr>
<td></td>
<td>Gear shift lever in gear.</td>
<td>Move lever to neutral.</td>
</tr>
<tr>
<td></td>
<td>PTO(s) engaged.</td>
<td>Disengage PTO(s).</td>
</tr>
<tr>
<td></td>
<td>No fuel.</td>
<td>Check fuel tank.</td>
</tr>
<tr>
<td></td>
<td>Fuel shut-off valve closed.</td>
<td>Open shut-off valve.</td>
</tr>
<tr>
<td></td>
<td>Cold weather.</td>
<td>Use cold weather starting aids.</td>
</tr>
<tr>
<td></td>
<td>Slow starter speed.</td>
<td>See “Starter Cranks Slowly.”</td>
</tr>
<tr>
<td></td>
<td>Crankcase oil too heavy.</td>
<td>Use oil of proper viscosity.</td>
</tr>
<tr>
<td></td>
<td>Improper type of fuel.</td>
<td>See Fuels and Lubricants section.</td>
</tr>
<tr>
<td></td>
<td>Water, dirt, or air in fuel system.</td>
<td>Drain, flush, fill and bleed system.</td>
</tr>
<tr>
<td></td>
<td>Clogged fuel filter.</td>
<td>Replace filter element.</td>
</tr>
<tr>
<td></td>
<td>Dirty or faulty injectors.</td>
<td>Have John Deere dealer check injectors.</td>
</tr>
<tr>
<td><strong>ENGINE RUNS IRREGULARLY OR STALLS FREQUENTLY</strong></td>
<td>Low coolant temperature.</td>
<td>Remove and check thermostat.</td>
</tr>
<tr>
<td></td>
<td>Clogged fuel filter.</td>
<td>Replace filter element.</td>
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<td>Drain, flush, fill and bleed system.</td>
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<td>Dirty or faulty injectors.</td>
<td>Have John Deere dealer check injectors.</td>
</tr>
<tr>
<td></td>
<td>Improper type of fuel.</td>
<td>Use proper fuel. See Fuels and Lubricants section.</td>
</tr>
<tr>
<td></td>
<td>Engine solenoid linkage out of adjustment.</td>
<td>See your John Deere dealer.</td>
</tr>
<tr>
<td><strong>ENGINE KNOCKS</strong></td>
<td>Insufficient oil.</td>
<td>Add oil.</td>
</tr>
<tr>
<td></td>
<td>Injection pump out of time.</td>
<td>See your John Deere dealer.</td>
</tr>
<tr>
<td></td>
<td>Low coolant temperature.</td>
<td>Remove and check thermostat.</td>
</tr>
</tbody>
</table>

Continued on next page
### Troubleshooting

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<thead>
<tr>
<th>Symptom</th>
<th>Problem</th>
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<tbody>
<tr>
<td><strong>LACK OF ENGINE POWER</strong></td>
<td>Engine overloaded.</td>
<td>Reduce load or shift to lower gear.</td>
</tr>
<tr>
<td></td>
<td>Intake air restriction.</td>
<td>Service air cleaner.</td>
</tr>
<tr>
<td></td>
<td>Clogged fuel filter.</td>
<td>Replace filter element.</td>
</tr>
<tr>
<td></td>
<td>Improper type of fuel.</td>
<td>Use proper fuel.</td>
</tr>
<tr>
<td></td>
<td>Overheated engine.</td>
<td>See “Engine Overheats.”</td>
</tr>
<tr>
<td></td>
<td>Below normal engine temperature.</td>
<td>Remove and check thermostat.</td>
</tr>
<tr>
<td></td>
<td>Improper valve clearance.</td>
<td>See your John Deere dealer.</td>
</tr>
<tr>
<td></td>
<td>Dirty or faulty injectors.</td>
<td>Have John Deere dealer check injectors.</td>
</tr>
<tr>
<td></td>
<td>Injection pump out of time.</td>
<td>See implement operator’s manual.</td>
</tr>
<tr>
<td></td>
<td>Improper ballast.</td>
<td>Adjust ballast to load.</td>
</tr>
<tr>
<td></td>
<td>Rockshaft stop valve closed.</td>
<td>Open stop valve.</td>
</tr>
<tr>
<td><strong>ENGINE OVERHEATS</strong></td>
<td>Engine overloaded.</td>
<td>Shift to lower gear or reduce load.</td>
</tr>
<tr>
<td></td>
<td>Improper coolant ratio.</td>
<td>See Draining, Flushing and Filling Cooling System in Service/Every 2 Years section.</td>
</tr>
<tr>
<td></td>
<td>Low coolant level.</td>
<td>Fill cooling system to proper level; check radiator, coolant recovery tank, and hoses for loose connections or leaks.</td>
</tr>
<tr>
<td></td>
<td>Faulty radiator cap.</td>
<td>Have service person check.</td>
</tr>
<tr>
<td></td>
<td>Loose or defective fan belt.</td>
<td>Adjust fan belt.</td>
</tr>
<tr>
<td></td>
<td>Dirty radiator core or grille screens.</td>
<td>Remove all trash.</td>
</tr>
<tr>
<td></td>
<td>Cooling system needs flushing.</td>
<td>Flush cooling system.</td>
</tr>
<tr>
<td></td>
<td>Defective thermostat.</td>
<td>Remove and check thermostat.</td>
</tr>
<tr>
<td></td>
<td>Defective temperature gauge or sender.</td>
<td>Check water temperature with thermometer and replace if necessary.</td>
</tr>
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<tr>
<td>---------------------------------</td>
<td>----------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
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<tr>
<td><strong>LOW OIL PRESSURE</strong></td>
<td>Low oil level.</td>
<td>Add oil.</td>
</tr>
<tr>
<td></td>
<td>Improper type of oil.</td>
<td>Drain, fill crankcase with oil of proper viscosity and quality.</td>
</tr>
<tr>
<td><strong>HIGH OIL CONSUMPTION</strong></td>
<td>Crankcase oil too light.</td>
<td>Use proper viscosity oil.</td>
</tr>
<tr>
<td></td>
<td>Oil leaks.</td>
<td>Check for leaks in lines, around gaskets and drain plug.</td>
</tr>
<tr>
<td><strong>ENGINE EMITS WHITE SMOKE</strong></td>
<td>Improper type of fuel.</td>
<td>Use proper fuel.</td>
</tr>
<tr>
<td></td>
<td>Low engine temperature.</td>
<td>Warm engine to normal operating temperature.</td>
</tr>
<tr>
<td></td>
<td>Defective thermostat.</td>
<td>Remove and check thermostat.</td>
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<tr>
<td></td>
<td>Engine out of time.</td>
<td>See your John Deere dealer.</td>
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<tr>
<td><strong>ENGINE EMITS BLACK OR GRAY EXHAUST SMOKE</strong></td>
<td>Improper type of fuel.</td>
<td>Use proper fuel.</td>
</tr>
<tr>
<td></td>
<td>Clogged or dirty air cleaner.</td>
<td>Service air cleaner.</td>
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<td></td>
<td>Engine overloaded.</td>
<td>Reduce load or shift to a lower gear.</td>
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<td></td>
<td>Injection nozzles dirty.</td>
<td>See your John Deere dealer.</td>
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<td>Engine out of time.</td>
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<td>Engine out of time.</td>
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</tr>
<tr>
<td></td>
<td>Implement improperly adjusted.</td>
<td>See implement operator’s manual.</td>
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<tr>
<td><strong>HIGH FUEL CONSUMPTION</strong></td>
<td>Low engine temperature.</td>
<td>Check thermostat.</td>
</tr>
<tr>
<td></td>
<td>Restricted air intake system.</td>
<td>Check system.</td>
</tr>
<tr>
<td></td>
<td>Plugged crankcase vent tube or baffle.</td>
<td>Clean vent tube or baffle.</td>
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Continued on next page
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<td><strong>BATTERY WILL NOT CHARGE</strong></td>
<td>Loose or corroded connections.</td>
<td>Clean and tighten connections.</td>
</tr>
<tr>
<td></td>
<td>Sulfated or worn-out battery.</td>
<td>Check electrolyte level and specific gravity.</td>
</tr>
<tr>
<td></td>
<td>Loose or defective fan belt.</td>
<td>Adjust belt tension or replace belt.</td>
</tr>
<tr>
<td><strong>CHARGING SYSTEM INDICATOR GLOWS WITH ENGINE RUNNING</strong></td>
<td>Low engine speed.</td>
<td>Increase speed.</td>
</tr>
<tr>
<td></td>
<td>Defective battery.</td>
<td>Check electrolyte level and specific gravity.</td>
</tr>
<tr>
<td></td>
<td>Defective alternator.</td>
<td>Have your John Deere dealer check alternator.</td>
</tr>
<tr>
<td></td>
<td>Loose or defective fan belt.</td>
<td>Adjust belt tension or replace belt.</td>
</tr>
<tr>
<td><strong>STARTER INOPERATIVE</strong></td>
<td>Loose or corroded connections.</td>
<td>Clean and tighten loose connections.</td>
</tr>
<tr>
<td></td>
<td>Low battery output.</td>
<td>Check electrolyte level and specific gravity.</td>
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<tr>
<td></td>
<td>Gear shift lever in gear.</td>
<td>Move lever to neutral.</td>
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<tr>
<td></td>
<td>PTO engaged.</td>
<td>Disengage PTO.</td>
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<td><strong>STARTER CRANKS SLOWLY</strong></td>
<td>Low battery output.</td>
<td>Check electrolyte level and specific gravity.</td>
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<tr>
<td></td>
<td>Crankcase oil too heavy.</td>
<td>Use proper viscosity oil.</td>
</tr>
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<td></td>
<td>Loose or corroded connections.</td>
<td>Clean and tighten loose connections.</td>
</tr>
<tr>
<td><strong>NO LIGHTS</strong></td>
<td>Fuse blown.</td>
<td>Replace fuse.</td>
</tr>
<tr>
<td><strong>HITCH FAILS TO LIFT</strong></td>
<td>Low oil level.</td>
<td>Fill system with proper oil.</td>
</tr>
<tr>
<td></td>
<td>Hydraulic stop valve closed.</td>
<td>Open valve.</td>
</tr>
<tr>
<td></td>
<td>Excessive load on hitch.</td>
<td>Reduce load.</td>
</tr>
<tr>
<td></td>
<td>Hydraulic oil too cold.</td>
<td>Allow oil to warm.</td>
</tr>
<tr>
<td></td>
<td>Hydraulic oil filter clogged.</td>
<td>Replace filter.</td>
</tr>
<tr>
<td></td>
<td>Screen clogged.</td>
<td>Clean or replace screen.</td>
</tr>
<tr>
<td><strong>HITCH DROPS SLOWLY OR DOES NOT DROP</strong></td>
<td>Hydraulic stop valve closed.</td>
<td>Open valve.</td>
</tr>
<tr>
<td></td>
<td>Rate-of-drop set too slowly.</td>
<td>Adjust rate of drop.</td>
</tr>
<tr>
<td><strong>HITCH DROPS TOO FAST</strong></td>
<td>Rate-of-drop set too fast.</td>
<td>Adjust rate of drop.</td>
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</table>

Continued on next page
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<tbody>
<tr>
<td>DIRECTION OF REMOTE CYLINDER TRAVEL IS REVERSED</td>
<td>Improper hose connections.</td>
<td>Reverse hose connections.</td>
</tr>
<tr>
<td></td>
<td>Regenerative function activated.</td>
<td>Position lock out.</td>
</tr>
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